

ATTACHMENT A
Remarks

Claims 1-10 stand pending in the present application. By this Amendment, Applicants have amended claims 1-4 and 9 and canceled claims 11-16. Applicants respectfully submit that the present application is in condition for allowance based on the discussion which follows.

The information disclosure statement was noted as failing to comply with 37 C.F.R. § 1.98(a)(3) for not including a concise explanation of the relevance of each non-English language patent. In Attachment C of this Amendment, Applicants have submitted concise explanations of Japanese Patent Application Publication Nos. 05-94838 and 06-267531 in accordance with 37 C.F.R. § 1.98(a)(3).

Claims 1-4 and 6-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishikawa et al. U.S. Patent No. 3,628,984 (hereinafter Ishikawa) in view of Bachman et al. U.S. Patent No. 4,210,431 (hereinafter Bachman). Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishikawa and Bachman further in view of Schardein. Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishikawa and Bachman further in view of Chu et al. U.S. Patent No. 4,664,774 (hereinafter Chu) and Okazaki et al. U.S. Patent No. 4,909,923 (hereinafter Okazaki).

In order to more clearly recite Applicants' invention, Applicants have amended the claims to now more clearly recite a method for producing a carbon material having a coating layer on the surface in which the carbon material has the properties which allowing it to be used as material of a negative electrode of a lithium secondary battery. The method includes dipping a core graphite material having a mean interplaner

spacing (d002) of (002) plane determined by x-ray wide angle defraction of 0.335 to 0.340 nm into a coat-forming carbon material. Subject mater basis for the amendment to the claims can be found in the Specification as filed on page 6, lines 13-21 and therefore, the claim amendments do not constitute new matter.

None of the prior art individually or in combination with one another teach or suggest the core carbon material as claimed. Furthermore, the prior art fails to teach or suggest a core graphite material having a mean interplaner spacing (d002) of (002) plane determined by x-ray wide angle defraction of 0.335 to 0.340 nm which is suitable for producing a high-capacity lithium secondary battery as claimed. Conversely, the present invention is specifically directed to a method for producing a carbon material having a coating layer which has the properties allowing the carbon material to be used as a material of a negative electrode of a lithium secondary battery. Since the prior art fails to teach or suggest the claimed core graphite material and claimed properties, the prior art fails to anticipate or make obvious the presently claimed invention.

Based on the foregoing, Applicants respectfully request that the rejections to claims 1-10 under 35 § U.S.C. 103(a) be withdrawn.

In view of the foregoing, Applicants respectfully submit that the present application is in condition for allowance.

END REMARKS

ATTACHMENT B
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for producing a carbon material having a coating layer on the surface, said carbon material being used as material of a negative electrode of lithium secondary battery, said method comprising:
_____ characterized in that the method comprises dipping a core-carbon-graphite material having a mean interplanar spacing (d002) of (002) plane determined by X-ray wide angle diffraction of 0.335 to 0.340 nm into a coat-forming carbon material, separating the core-carbon-graphite material from the coat-forming carbon material, adding organic solvent or solvents to the separated core-carbon-graphite material which is subjected to washing, drying and calcination.

2. (Currently Amended) A The method for producing a coated carbon material having a coating layer on the surface characterized in that the method comprises according to claim 1, wherein said dipping-a the core-carbon-graphite material into-a the coat-forming carbon material comprises dipping the core graphite material into the coating-forming carbon material at 10-300° C, separating the core carbon material from the coat-forming carbon material, adding organic solvent or solvents to the separated core carbon material which is subjected to washing, drying and calcination.

3. (Currently Amended) The method for producing a coated carbon material according to claim 1, wherein the separated core-carbon graphite material to which the organic solvent or solvents are added is washed at 10-300° C.

4. (Currently Amended) The method for producing a coated carbon material according to claim 1, wherein the core-carbon graphite material is dipped into the coat-forming carbon material under reduced pressure.

5. (Original) The method for producing a coated carbon material according to claim 1, wherein the coat-forming carbon material is coal heavy oil or petroleum heavy oil.

6. (Original) The method for producing a coated carbon material according to claim 1, wherein the coat-forming carbon material is tar or pitch.

7. (Original) The method for producing a coated carbon material according to claim 1, wherein the organic solvents used for washing are at least one selected from toluene, quinoline, acetone, hexane, benzene, xylene, methylnaphthalene, alcohols, oils from coal and petroleum.

8. (Original) The method for producing a coated carbon material according to claim 1, wherein a ratio of solid matter and organic solvent or solvents during washing is 1:0.1-10 by weight.

9. (Currently Amended) The method for producing a coated carbon material according to claim 1, wherein a covering ratio (c) defined as weight ratio of coat-forming carbon material/~~core carbon graphite~~ material + coat-forming carbon material is $0 < c \leq 0.3$.

10. (Original) The method for producing a coated carbon material according to claim 1, wherein the coat-forming material has primary QI at least part of which is removed to reduce a primary QI content of 3% or less.

11-16. (Canceled)

ATTACHMENT C
Explanation of Relevance of Non-English Language Patents

Concise explanation of JP patent application publication No. 05-94838

This document is directed to a secondary battery comprising a rechargeable positive electrode and a rechargeable negative electrode, wherein the positive electrode contains metal chalcogen compounds, wherein the negative electrode contains as a primary component a multi-structured carbonaceous material prepared by forming a carbonaceous surface layer which meet the requirement (B) shown below on the surface of a particulate or fibrous core carbonaceous material which meet the requirement (A) shown below:

(A) interplanar spacing (d_{002}) of (002) plane determined by X-ray wide angle diffraction is less than 3.45 angstrom; and

(B) G value defined by equation (I) is less than 2.0, which is determined by Raman spectroscopic analysis using an argon ion laser with a wavelength of 5145 angstrom,

$$G=IA/IB \quad (I)$$

wherein IA and IB are integration values of intensity of spectrum at wavelength range of $1580 \pm 100 \text{ cm}^{-1}$ and $1360 \pm 100 \text{ cm}^{-1}$, respectively.

Concise explanation of JP patent application publication No. 06-267531

This document is directed to a multi-structured electrode material having carbonaceous material (A) which meet the following condition (1) coated with carbonaceous material (C) which meet the following condition (3), prepared by admixing particles of said carbonaceous material (A) and particles of organic compound (B) which

meet the following condition (2), and then heating the resulting mixture to carbonize said organic compound (B):

- (1) d002 determined by X-ray wide angle diffraction is 3.37 angstrom or less; true density is 2.10 g/cm³ or more; volume average particle diameter is 5 µm or more;
- (2) a volume average particle diameter of organic compound (B) is less than that of carbonaceous material (A); and
- (3) d002 determined by X-ray wide angle diffraction is 3.38 angstrom or more; a ratio (R) of intensity (I_A) of peak (P_A) to intensity (I_B) of peak (P_B), i.e., $R(I_B/I_A)$ is 0.2 or less, wherein peak (P_A) and peak (P_B) are determined by Raman spectroscopic analysis using an argon ion laser with a wavelength of 5145 angstrom, peak (P_A) in the range of 1580-1620 cm⁻¹ and peak (P_B) in the range of 1350-1370 cm⁻¹, respectively.